

NAME: _____

Date : _____

Test-Solving Linear Systems by Graphing, Substitution and Elimination, Problem Solving

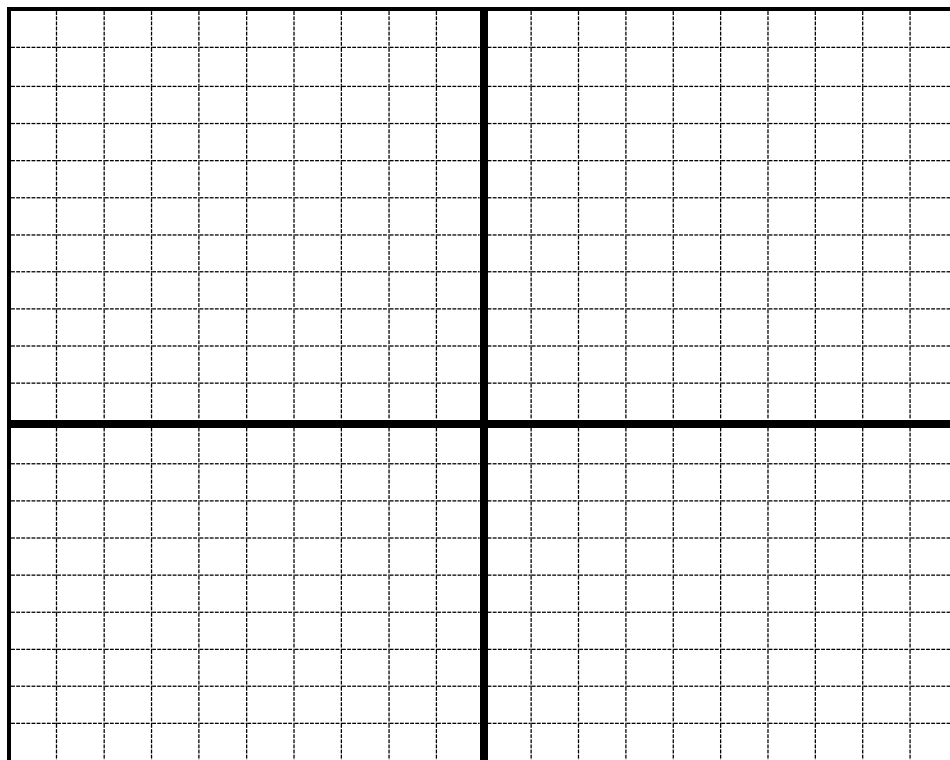
Part A Knowledge and Understanding

1) Solve the following linear system by **GRAPHING**:

answer: (-3,5) intersect

$$x + 3y - 12 = 0$$

$$y - \frac{1}{3}x = +6$$



2) Find the intersection of the following systems by **SUBSTITUTION**:

answer: (4,1)

a) $y = 2x - 7$

$$2x - 3y - 5 = 0$$

Find the intersection of the following systems by **SUBSTITUTION**:

answer: (-1,-2)

b) $3x - 4y = 5$
 $x - 4y - 7 = 0$

3) Solve the following linear system by **ELIMINATION**:

answer: (0) Coincide

a) $-5x + 3y + 7 = 0$
 $10x - 6y - 14 = 0$

4) Solve the following linear system by **ELIMINATION**:

answer: (-3,7) intersect

b) $2x + 5y = 29$
 $5x - 3y = -36$

Part B : For questions 4-6 you must define your variables and generate the two equations. You do not need to solve the problem. Solve using substitution or elimination.

4. Mr. Kaminski has 34 coins worth \$56.00. He has loonies and toonies. How many coins of each type does he have?
(answer: loonies – 12 and toonies – 22)

5. Twice Bill's age plus half his mother's age is 48. Three times Bill's age less half his mother's age is 27. How old are Bill and his mother?
(answer: Bill – 15 and Mother – 36)

6. Two trucks left Ottawa, one east and the other west on the Queensway. The truck going east drove 10km/h faster since the road had less construction. At the end of 5 hours, they discover over the CB radios that they are 500 km apart. How fast was each truck traveling? *(answer: slower – 45km/h & faster – 55 km/h)*

7. A wealthy person invests \$2500. Part is invested at 9% per annum and part is invested at 12% per annum. After one year, the total interest earned was \$252.00. How much was invested at each rate?
(answer: 9% -- \$900 & 12% -- \$1600)